

**WHAT IS CLAIMED IS:**

1. A method for preparing conjugated linolenic acids comprising the steps of:

- (a) blending a or a mixture of vegetable oils and/or fats including various concentrations of alpha or gamma and or both linolenic acids with a base to produce a reaction mixture;
- (b) recovering said conjugated linolenic acids from the reaction mixture, and
- (c) subjecting the reaction mixture to urea complexation or liquid chromatography.

2. The method as defined in claim 1, wherein said oils and/or fats are selected from the group consisting of arnebia, basil, candelnut, flax (linseed), linola, gold of pleasure, hemp, mustard, perilla, soybean, canola, walnut, chia, crambe, echium, hop, kiwi, pumpkin, black currant seed oil, purslane seed oil, borage oil, and evening primrose oil as well as any other oil, wax, ester or amide which comprises free and/or derivatized linolenic acid.

3. The method as defined in claim 2, wherein said base is selected from the group consisting of sodium hydroxide, sodium alkoxylate, sodium metal, potassium hydroxide, potassium alkoxylate, potassium metal and strong base resins.

4. The method as defined in claim 3, further comprising isolating from said reaction mixture geometrical isomers of partially and/or fully conjugated isomers of said conjugated linolenic acids.

5. The method as defined in claim 1, wherein said blending is performed in a polyol solvent.

6. The method as defined in claim 5, wherein said polyol is selected from the group consisting of propylene glycol, glycerol and ethylene glycol.

7. The method as defined in claim 6, wherein said blending is performed at temperatures ranging from about 20°C to about 280°C over a period of time ranging from about 30 seconds to about 18 hours.

8. The method as defined in claim 3, wherein said liquid chromatography is reverse phase liquid chromatography.

9. The method as defined in claims 1 to 8, wherein said  
10 conjugated linolenic acids are selected from the group consisting of 9Z,11E,15Z-octadecatrienoic acid, 9Z,13E,15Z-octadecatrienoic acid, 6Z,8E,12Z-octadecatrienoic acid, and 6Z,10E,12Z-octadecatrienoic acid.

10. A 6Z,8E,12Z-octadecatrienoic acid of formula 1:



obtained by the method of claim 1.

11. A method for preparing 9Z,11E,15Z-octadecatrienoic acid  
20 and 9Z,13E,15Z-octadecatrienoic acid comprising:

- (a) blending linseed oil with a base to produce a reaction mixture; and
- (b) recovering said conjugated linolenic acids from the reaction mixture.

12. A use of conjugated linolenic acids selected from the group consisting of 9Z,11E,15Z-octadecatrienoic acid, 9Z,13E,15Z-octadecatrienoic

25

acid, 6Z,8E,12Z-octadecatrienoic acid, and 6Z,10E,12Z-octadecatrienoic acid in nutritional, cosmetic, and nutraceutical applications, characterized in that the linolenic acids are obtained by the method of claim 1.